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Cc: R8 Environmental Unit Leader[R08_Environmental_Unit_Leader@epa.gov]
From: OBrien, Wendy
Sent: Sat 8/15/2015 2:37:21 PM
Subject: background information on MCLs

Below is some standard information on MCLs. Let me know if you need something else regarding MCLs. Next I will send some exposure pathway figures.

Also working on getting validated surface water data for Friday Aug 14 to SRC for preparation of graphs.

Let me know what else you need.

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Definition of MCL

The Maximum Contaminant Level (MCL) represents the maximum concentration of a chemical that is allowed in public drinking water systems under the Safe Drinking Water Act. The process of determining an MCL starts with an evaluation of the adverse effects caused by the chemical in question and the doses needed to cause such effects. The evaluation is based on the results of animal experiments, and the research results are extrapolated to humans using standard EPA methods.

Background

Currently there are fewer than 100 chemicals for which an MCL has been established; however, these represent chemicals that are thought to pose the most serious risk. To set a MCL for a contaminant, EPA first determines how much of the contaminant may be present with no adverse health effects. This level is called the Maximum Contaminant Level Goal (MCLG). MCLGs are non-enforceable public health goals. The legally enforced MCL is then set as close as possible to the MCLG. The MCL for a contaminant may be higher than the MCLG because of difficulties in measuring small quantities of a contaminant, a lack of available treatment technologies, or if EPA determines that the costs of treatment would outweigh the public health benefits of a lower MCL. In the last case, EPA is permitted to choose an MCL that balances the cost of treatment with the public health benefits.

For some contaminants, EPA establishes a Treatment Technique (TT) instead of an MCL. TTs are enforceable procedures that drinking water systems must follow in treating their water for a contaminants.

Some contaminants may cause aesthetic problems with drinking water, such as the presence of unpleasant tastes or odors, or cosmetic problems, such as tooth discoloration. Since these contaminants do not cause health problems, there are no legally enforceable limits on their presence in drinking water. However, EPA recommends maximum levels of these contaminants

in drinking water. These recommendations are called National Secondary Drinking Water Regulations (NSDWRs), or secondary standards. Examples of chemicals having NSDWRs are iron, manganese, silver, and zinc.

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